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Examiner, Art Unit 1793 UNITED STATES PATENT AND TRADEMARK OFFICE

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/516,308

Filing Date: December 14, 2005

Appellant(s): UHRLANDT ET AL.

Stefan Uhrlandt, ET AL.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 1st, 2009 appealing from the Office action mailed June 4th, 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US No.: 6,268,424	Blume et al.	6-2001
US No.: 5,800,608	Bomal et al.	9-1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, 6-7, 16-17, and 19-23 rejected under 35 U.S.C. 103 (a) as being unpatentable over Blume et al. EP 0983966 (herein referred to under the equivalent of US pat. 6,268,424) in view of Bomal et al (US 5,800,608).

Regarding claim 1, Blume et al. disclose a precipitated silica containing (abstract):

Precipitated silica having the following parameters:

BET surface area	80-180 m ² /g
CTAB surface area	80-139 m ² /g
BET/CTAB ratio	1.0-1.6
Sears No. (consumption of 0.1 N NaOH)	5-25 ml
DBP No.	200-300 ml/100 g
Al ₂ O ₃ content	<5%
wk coefficient	<3.4
Degraded particles	<1.0 μ m
Non-degradable particles	1.0-100 μ m

Although the CTAB surface area taught by Blume et al. is to some extent outside the instant claim 1, Bomal et al teaches a process of making precipitated silica containing CTAB between 140-200 m²/g (abstract), which overlaps the instant claimed. The references differ from Applicant's recitations of claims by not disclosing identical ranges. However, the reference discloses "overlapping" ranges, and overlapping ranges have been held to establish prima facie obviousness (MPEP 2144.05).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the specific surface area (CTAB) of Bomal to the composition of Blume et al, motivated by the fact that the precipitated silica taught by Bomal, is in the form of substantially spherical beads or of granules. It has excellent

dispersibility and very satisfactory reinforcing prosperities in rubber compositions (abstract, col.9, lines 7-10). Since Blume and Bomal teach compositions of precipitated silica and have a reasonable expectation of success, the invention as claim 1 would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 2, the precipitated silica taught by Blume et al has an oil absorption capacity (DBP) 200-300 ml/100g, which is encompassed by the instantly claimed (abstract).

Regarding claim 6, the precipitated silica taught by Blume et al has a wk coefficient of 3.4 as the recited claim (abstract, and col.12, line 67 to clo.13 line 1).

Regarding claims 7 and 22, the precipitated silica taught by Blume et al contains organosilanes, represented by the formulas I to III shown below. They are encompassed by the instantly claimed (col. 4, lines 15-47).



or



in which
B denotes $-\text{SCN}$, $-\text{SH}$, $-\text{Cl}$, $-\text{NH}_2$ (when $q=1$) or $-\text{Sx}-$ (when $q=2$),
R and R^1 denote an alkyl group with 1 to 4 carbon atoms, the phenyl radical, all radicals R and R^1 in each case being the same or having a different meaning,
R denotes a C_1 to C_{20} -alkyl group or C_1 to C_4 -alkoxy group,
n denotes 0, 1 or 2,
Alk denotes a divalent linear or branched hydrocarbon radical with 1 to 18 carbon atoms,
m denotes 0 or 1,
Ar denotes an arylene radical with 6 to 12 carbon atoms, preferably with 6 carbon atoms,
p denotes 0 to 1, provided that p and n do not simultaneously denote 0,
x denotes an integer from 2 to 8,
Alkyl denotes a monovalent linear or branched saturated hydrocarbon radical with 1 to 20 carbon atoms, preferably 2 to 8 carbon atoms,
Alkenyl denotes a monovalent linear or branched unsaturated hydrocarbon radical with 2 to 20 carbon atoms, preferably 2 to 8 carbon atoms, and
q denotes 1 or 2.

Regarding claims 16-17, the precipitated silica taught by Blume et al can be used in all rubber applications, particularly in tires as per applicant claims 16-17 (col. 6, line 52-col. 7, line14).

Regarding claims 19-20, the precipitated silica prepared according to the method of Blume et al can be used in all rubber applications, particularly in tires (Example 1, col.9, lines 19-44, and col. 6, line 52-col. 7, line14).

Regarding claim 21, the precipitated silica taught by Blume et al can be used in battery separators as instantly claimed (col. 7, lines 15-17).

Regarding claim 23, as discussed above, Bomal et al teaches a process of making precipitated silica containing CTAB between 140-200 m^2/g , which overlaps the instant claimed. The references differ from Applicant's recitations of claims by not disclosing identical ranges. However, the reference discloses "overlapping" ranges, and

overlapping ranges have been held to establish prima facie obviousness (MPEP 2144.05).

(10) Response to Argument

Ground (A)

Argument #1: Applicant argues against the reference of Bomal et al. who does not specifically disclose the modified Sears number V2 and has a very preferably BET/CTAB surface ratio of between 1.0 and 1.2, which is fallen outside of claimed range. And the Examiner improper picked limitations that support the holding of obviousness while unreasonably ignoring limitations (pages 4-5).

They are not found persuasive. As discussed in the office action mailed on June 4, 2009, the parameters of the precipitated silica taught by Blume et al. overlap with the present application, except CTAB surface area. Although it is outside of the claimed range (80-**139** m²/g of Blume vs. **145**-350 m²/g of present application), further variations and modifications of the foregoing will be apparent to those in the art (Blume et al. col.13, lines 39-41).

Bomal et al teaches the precipitated silica containing CTAB between 140-200 m²/g.

One ordinary skilled in the art would at once envisage the different CTAB values between Blume et al. and Bomal et al, and would have been able to optimize the CTAB value and adjust the ratio of BET/CTAB accordingly based on preference or other requirement, as the CTAB and BET/CTAB ratio are obviously related.

The combination of teachings of Bomal et al and Blume et al., as stated in the precious office action, is motivated by the fact the resulting precipitated silica has excellent dispersibility and very satisfactory reinforcing prosperities in rubber mixture. Since both of them teach the composition of precipitated silica and apply precipitated silica into rubber mixture, one would have a reasonable expectation of success. Therefore, the *prima facie* obviousness has been established. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Argument #2: Regarding claim 23, applicant argues the preferred BET surface area of Bomal et al. is 150-190 m²/g, which is outside of the instant claim (195-400 m²/g).

It is not found persuasive because Bomal et al. indeed discloses the range of BET is 140-200 m²/g, which overlaps the instant claimed range. The references differ from Applicant's recitations of claims by not disclosing identical ranges. However, the reference discloses "overlapping" ranges, and overlapping ranges have been held to establish *prima facie* obviousness (MPEP 2144.05).

Ground (B):

Regarding claims 19-20 rejected under 35 U.S.C.112 (2), the rejection is withdrawn.

However, the examiner would like to take this opportunity to address the applicant's arguments. These claims are initially dependant on a non-elected a

process of making Group II, claim 8. For the purpose of Compact Prosecution, the Examiner interpreted these claims to be dependent on the claim 1, as the claimed Vulcanizable rubber mixture or vulcanizates comprising the same precipitated silica as the instant claim 1.

Regarding claims 19-20, as discussed above, the combined references of Blume et al. and Bomal et al. teach the same precipitated silica as the recited claims. Both of them apply precipitated silica into rubber (tire) (Blume et al. Example 1, col.9, lines 19-44, and col. 6, line 52-col. 7, line14; and Bomal et al. col. 17, line 5, Example 8). Therefore, the rejection stands.

Product-by-process limitations in these claims are noted. It is considered while the product of the reference is made by a different process, the product made and disclosed is the same as being claimed. see "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious different between the claimed product and the prior art product (In re Marosi, 710 F.2d 798, 802,218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Yun Qian/

Examiner, Art Unit 1793

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